

Inter (Part-I) 2017

Mathematics	Group-II	PAPER: I
Time: 30 Minutes	(OBJECTIVE TYPE)	Marks: 20

Note: Four possible answers, A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- If the n th term of an A.P is $\frac{1}{2}(3 - n)$, then first three terms are:

- (a) 3, 2, 1
- (b) 1, 2, 3
- (c) 1, 2, 1
- (d) $1, \frac{1}{2}, 0$ ✓

2- Radius of escribed circle opposite to vertex A is equal to:

- (a) $\frac{\Delta}{s}$
- (b) $\frac{\Delta}{s-b}$
- (c) $\frac{\Delta}{s-c}$
- (d) $\frac{\Delta}{s-a}$ ✓

3- An equation containing at least one trigonometric function is called:

- (a) Algebraic equation
- (b) Quadratic equation
- (c) Linear equation
- (d) Trigonometric equation ✓

4- If a function $f : A \rightarrow B$ is such that Range $f = B$, then f is called:

- (a) Injective
- (b) Surjective ✓
- (c) Into
- (d) Periodic

5- The fraction $\frac{x^2 + 7x + 3}{x + 1}$ is:-

- (a) Improper ✓
- (b) Proper
- (c) Equivalent
- (d) Identity

6- nC_0 is equal to:

- (a) nP_2 (b) nC_n ✓
(c) nC_2 (d) ${}^nC_{n+1}$

7- The inverse of a square matrix exists if A is:

- (a) Singular (b) Non-singular ✓
(c) Symmetric (d) Rectangular

8- The domain of $\cos x$ is:

- (a) $[0, 1]$ (b) \mathbb{R} ✓
(c) $[-1, 1]$ (d) $[-1, 0]$

9- $\cos(\sec^{-1} 1)$ is equal to:

- (a) 1 ✓ (b) 0
(c) 30° (d) 2

10- The point of intersection of the angular bisectors of a triangle is called:

- (a) Circum centre (b) Orthocentre
(c) In-centre ✓ (d) Centroid

11- $\frac{\sec \theta}{\operatorname{cosec} \theta}$ is equal to:

- (a) $\cos \theta$ (b) $\tan \theta$ ✓
(c) $\cot \theta$ (d) $\sin \theta$

12- One root of the equation $x^2 - 3x + a = 0$ is 2, then a is:

- (a) -2 (b) 2 ✓
(c) 3 (d) -3

13- $\frac{{}^nP_r}{r!}$ is equal to:

- (a) nC_r ✓ (b) ${}^nC_{r-1}$
(c) ${}^{n+1}C_r$ (d) ${}^{n-1}C_r$

14- $|a + bi|$ is equal to:

- (a) $\sqrt{a^2 + b^2}$ ✓ (b) $\sqrt{a^2 - b^2}$
(c) $\sqrt{-a^2 - b^2}$ (d) $\sqrt{b^2 - a^2}$

15- Geometric mean between 4 and 16 is:

- (a) ± 4 (b) ± 8 ✓
(c) ± 16 (d) ± 64

